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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,952	03/16/2005	Hideo Hayashi	040565	8837
23850 7590 06/14/2007 ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP 1725 K STREET, NW SUITE 1000 WASHINGTON, DC 20006			EXAMINER HENRY, MICHAEL C	
			ART UNIT 1623	PAPER NUMBER
			MAIL DATE 06/14/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/510,952	Applicant(s) HAYASHI, HIDEO	
	Examiner Michael C. Henry	Art Unit 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: ____. |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :10/28/04, 12/20/04, 02/18/05 & 01/03/06.

DETAILED ACTION

Claims 1-16 are pending in application

Information Disclosure Statement

The information disclosure statement filed complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. It has been placed in the application file and the information referred to therein has been considered as to the merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 5, 10, 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawasuji et al. (Toyama-ken Yakuji Kenkyusho Nenpo (1990), Volume Date 1989, (17), 78-82) (Abstract Only).

In claim 1, applicant claims a method for modifying gum Arabic which comprises a step of heating the gum arabic at a temperature of not less than 40°C in an atmosphere having a relative humidity of 30-100%. Kawasuji et al. disclose applicant's method for modifying gum arabic (i.e., converting it to a yellow-brown elastic mass) which comprises a step of heating the gum arabic at a temperature of 40°C in an atmosphere having a relative humidity of 75 % (see abstract). It should be noted that Kawasuji et al.'s gum arabic like applicant's gum Arabic was heated at the same temperature and in the same atmosphere having the same relative humidity and consequently they both should be similarly modified. Claims 2, 4, 5 which are drawn to said method wherein the gum arabic is heated at specific temperature and is in the an atmosphere of

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specific relative humidity, are also anticipated by Kawasuji et al. since Kawasuji et al. method uses the same temperature (40°C) and atmosphere of relative humidity (75%) (see abstract).

Claim 10 which is drawn to the method for modifying gum arabic according to Claim 1, which is a method for enhancing the emulsifying ability of gum Arabic, is also anticipated by Kawasuji et al. since Kawasuji et al. method produces the same modified gum Arabic as applicant by using the same temperature (40°C) and atmosphere of relative humidity (75%) (see abstract). Claim 11 is a product-by-process claim wherein the applicant claims a modified gum arabic obtained by the method according to Claim 1. Kawasuji et al. disclose applicant's modified gum arabic (i.e., converted it to a yellow-brown elastic mass) (see abstract). It should be noted that Kawasuji et al.'s gum Arabic like applicant's gum Arabic was heated at the same temperature and in the same atmosphere having the same relative humidity and consequently they both should be similarly modified. A quotation from the MPEP (Manual of Patent Examining Procedure, 8 ed., August 2001) pertaining to Product-by-Process Claims is given below in order for further corroborate the reason for the aforementioned rejection. The quotation states that "PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE IMPLIED BY THE STEPS "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)."

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Claims 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ward (Abstract of Papers, 220th ACS National Meeting, Washington, DC, United States, August 20-24, 2000 (2000) CARB-080).

Claim 11 is a product-by-process claim wherein the applicant claims a modified gum arabic obtained by the method according to Claim 1. Ward discloses applicant's modified gum arabic (see abstract). A quotation from the MPEP (Manual of Patent Examining Procedure, 8 ed., August 2001) pertaining to Product-by-Process Claims is given below in order for further corroborate the reason for the aforementioned rejection. The quotation states that "PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE IMPLIED BY THE STEPS "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)." In claim 12, applicant claims an emulsifier comprising the modified gum arabic obtained by the method according to Claim 1 as an active ingredient. Ward discloses applicant's emulsifier comprising modified gum arabic (see abstract). In claim 13, applicant a method for preparing an emulsion which comprises using the modified gum arabic obtained by the method according to Claim 1 as an emulsifier. Ward discloses applicant's method for preparing an emulsion which comprises using modified gum Arabic (see abstract). In claim 14 applicant claims the method for preparing an emulsion according to Claim 13 wherein the emulsion is an O/W or W/O/W emulsion which contains, as a

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dispersoid, at least one hydrophobic substance selected from the group consisting of essential oils, oily flavorings, oily colors, fat-soluble vitamins, polyunsaturated fatty acids, animal or vegetable oils, sucrose acetate isobutyrate, and medium-chain triglycerides. Ward discloses applicant's method for preparing an emulsion (oil in water) which comprises using modified gum Arabic and various oils as dispersoid (see abstract). Claim 15 is a product-by-process claim wherein applicant claims an emulsion prepared by the method according to claim 13. Ward discloses applicant's emulsion comprising modified gum Arabic (see abstract). In claim 16, applicant claims, the emulsion according to Claim 15 which is an O/W or W/O/W emulsion which contains, as a dispersoid, at least one hydrophobic substance selected from the group consisting of essential oils, oily flavorings, oily colors, fat-soluble vitamins, polyunsaturated fatty acids, animal or vegetable oils, sucrose acetate isobutyrate, and medium-chain triglycerides. Ward discloses applicant's emulsion (oil in water) which comprises modified gum arabic and various oils (see abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3, 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawasuji et al. (Toyama-ken Yakuji Kenkyusho Nenpo (1990), Volume Date 1989, (17), 78-82) (Abstract Only).

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In claim 1, applicant claims a method for modifying gum Arabic which comprises a step of heating the gum arabic at a temperature of not less than 40°C in an atmosphere having a relative humidity of 30-100%. Claims 3, 6-9 which are drawn to said method wherein the gum arabic is heated at specific temperature and in the an atmosphere of specific relative humidity, and in closed or open system.

Kawasuji et al. disclose a method for modifying gum arabic (i.e., converting it to a yellow-brown elastic mass) which comprises a step of heating the gum arabic at a temperature of 40°C in an atmosphere having a relative humidity of 75 % (see abstract). It should be noted that Kawasuji et al.'s gum arabic like applicant's gum Arabic was heated at the same temperature and in the same atmosphere having the same relative humidity and consequently they both should be similarly modified.

The difference between applicant's claimed method and the method of Kawasuji et al. is the temperature and relative humidity. However, a skilled artisan would be motivated to modify the physical parameters used in Kawasuji et al.'s method such as temperature and relative humidity and time in order to optimize the process conditions and physical variables such as texture, amounts, % yield and/or purity of product (i.e., gum arabic). It should be noted that merely modifying the process conditions such as temperature and concentration is not a patentable modification absent a showing of criticality. In re Aller, 220 F.2d 454, 105 U.S.P.Q. 233 (C.C.P.A. 1955).

It would have been obvious to one having ordinary skill in the art, at the time the claimed invention was made, to have used the method of Kawasuji et al. to produce modified gum arabic and to alter the physical parameters used in Kawasuji et al.'s method such as temperature and

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relative humidity in order to use them in products such as emulsions, foodstuff or pharmaceuticals, based on factors such as availability, cost, convenience and/or need.

One having ordinary skill in the art would have been motivated to use the method of Kawasuji et al. to produce modified gum arabic and to alter the physical parameters used in Kawasuji et al.'s method such as temperature and relative humidity in order to use them in products such as emulsions, foodstuff or pharmaceuticals, based on factors such as availability, cost, convenience and/or need. It should be noted that the use of a closed or open system to heat a substance such as gum arabic is common in the art, should not alter the product formed and is well within the purview of a skilled artisan.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Henry whose telephone number is 571-272-0652. The examiner can normally be reached on 8.30am-5pm; Mon-Fri. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Michael C. Henry

SAJ 6/7/07

Shaojia Anna Jiang, Ph.D.
Supervisory Patent Examiner
Art Unit 1623

June 1, 2007.